

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

### Universal Forest Products

#### Arizona Manufacturing Extension Partnership

#### Making Lean the Universal Language at Universal Forest Products

##### Client Profile:

Universal Forest Products (UFP) began by selling to the manufactured housing industry in 1955, and today has grown to become a major supplier to several markets, currently manufacturing wood and wood alternative products, components, structural lumber and wood packaging, for site-built construction, retail home centers, industry and manufactured housing. Universal is the largest manufacturer of engineered roof systems and is a leading producer of pressure treated lumber nation wide. UFP is also the largest customer of North America's mills. Headquartered in Grand Rapids, Michigan, there are over 100 Universal Forest Products locations in North America. The facility in Chandler, Arizona employs 150 people.

##### Situation:

Universal Forest Products strategic planners decided to improve their corporate philosophy to make improvements in the way they operated the business. At the Arizona facility, the main objective of improvement was customer focused, with an emphasis on improving on time delivery to all customers. Donnie McDonald, Plant Manager, received his Lean training through Georgia Tech and recognized that this was the direction Chandler UFP needed to move in. McDonald also recognized that the company needed help to make this transition and sought the help of the Arizona Manufacturing Extension Partnership (Arizona MEP), a NIST MEP network affiliate.

##### Solution:

Arizona MEP Project Managers Fred Cone and Joe Murcko performed a Lean Assessment at UFP Phoenix, determining that UFP was eligible for H1B grant funds to assist with training expenses. They were successful in being awarded a grant which reimbursed half of the training costs. Based on the findings from the Lean Assessment, Donnie and the project team from Arizona MEP knew that their work would not be successful unless there was a culture change and the UFP employees were on board with lean improvements. The production staff needed to be involved in the planning and decision making as well as the change implementation. Employees wondered why management wanted to make changes and implement "Lean." The term Lean does not translate well in Spanish and most of the production staff were Spanish speaking. They were concerned that jobs would be lost. The Lean team had to prove that this was not the case. One method that helped was using video to film the processes that the team wanted to improve. For example, videotaping helped illustrate the benefits of maintaining changes and improvements made during 5S implementation, and showed why everyone's involvement was so important to the success. This process gave the group something that they could see and understand. Visuals helped transcend the language barrier and gradually employees realized what the project team was trying to do. Getting the employees to accept change at Universal was nearly a three year struggle. After this breakthrough, Arizona MEP members were able to design a Lean implementation program that gave UFP Phoenix the tools they needed and skills to use the tools. Once this was accomplished, the MEP staff stepped back to allow UFP time to use the tools in a way

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that made sense for their company's specific needs.

So far, Universal Forest Products has had about 20 of their 95 employees participate in Time Wise 102 events off site. The TW102 is a one-day, basic lean training workshop that combines classroom learning with hands-on manufacturing simulations. Participants learn Lean concepts and then put them to use in a simulated manufacturing environment. For the first event, UFP sent employees from production, sales and shipping and receiving departments. The next round was primarily made up production supervisors. Afterwards, these people were able to come back to Universal and share their knowledge with other staff members and become in house "go-to" people. "UFP made sure that sales people were included in this training because Lean has to start the minute they get on the phone with the customer," said McDonald.

UFP wanted assistance in learning how to use the lean tools correctly and to implement them to maximize their use. Jason Gerros, Arizona MEP project manager, stated the main objective in doing the Value Stream Mapping and Kaizen work was to improve UFP's on-time delivery rate. From mapping out the processes, it was determined that in order to improve, Universal needed to work on their finished goods inventory and the layout of their yard. The sales department was also included in these exercises since communication issues between departments have a big effect on delivery. In January 2007, UFP held a Kaizen event to reorganize their yard. They eliminated waste in their processes and have made the procedures more visual and convenient for the employees. Bays are labeled for correct product and the fork truck drivers can easily see where completed orders are located to load trucks more efficiently. This has drastically reduced time spent looking for shipments, and has resulted in an over-all increase in on-time delivery.

Working on communication between departments has also created substantial benefits. Sales used to waste a lot of time trying to explain to customers why things went wrong or were not possible, and then making a flurry of follow up calls to try to "fix things". Now there are visual queues in the sales office which show available production capacity so the sales people will not make promises they cannot keep. They have added leader boards, another visual control, which indicate what machines are available and help manage production. This allows employees to make educated estimates as to when customers can expect delivery. Salespeople now see what is going on in the manufacturing process. They know which machines are used for which product and can negotiate among themselves and make calls to clients if there will be delays due to a problem or a rush job. Communication keeps people much happier and better informed and gives everyone more insight into the process so they know what can reasonably be expected from the factory. "The ultimate goal, said McDonald, "is for Universal to become adept enough at using lean tools like Value Stream Mapping and Kaizen, and to use them on their own. These processes and the way the Arizona MEP staff presents them are very well thought out. They allow you to analyze before you make the changes and then encourage the group to come up with the answers and make the improvements together. We are trying to tailor make things to fit our (UFP) applications and to try to standardize so that everyone clearly understands."

#### Results:

- \* Increased on-time delivery rate by 77 percent.
- \* Eliminated waste.
- \* Established visual queues in the sales office and on the shop floor.
- \* Improved communication between departments.

#### Testimonial:

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"The lean tools that Arizona MEP has taught have become a template and now Universal needs to personalize them and keep them flexible so we can focus on the processes. The experience of working with Joe Murcko, Fred Cone, and Jason Gerros, the Arizona MEP team, has been very worthwhile. They were hands on when necessary, but allowed us to do the actual work as they observed. They engaged us and showed us how to use the tools ourselves with their guidance. This (Lean) will be a lasting experience for us since it will be ongoing. Now we have been empowered to continue the process on our own."

Donnie McDonald, Plant Manager